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ABSTRACT

This study examined relationships between college students' (n=94) recall of important school-related events and the students' current academic engagement. Autobiographical narratives were coded for time period (e.g., middle school), theme (e.g., achievement), context (e.g., academics, sports), and the presence of goal-directed content (e.g., presence of need, assistance and hindrance, emotions, goals). Current student motivation and engagement in learning were assessed using a generalized version of the Motivated Strategies for Learning Questionnaire. Among the general trends reported by the study were the following: (1) students recalled more affiliative/noncurricular than academic/achievement episodes; (2) the least positive (most negative) content emerged when students described affiliative/noncurricular memories; (3) there were less than half as many middle school than either elementary or high school memories; and (4) students who were more anxious, less confident, and who used lower-level rehearsal strategies in college tended to recall more noncurricular and nonachieving episodes. Discussion focused on reasons for the low recall of episodes during middle school and the possible moderating effect of memories on current motivational tendencies and student engagement in learning. (Contains 23 references.) (DB)

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Autobiographical Narratives of Important School Events and College Students' Current Academic Engagement

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Abstract

We examined college students' (N = 94) recall of important school-related events. Autobiographical narratives were coded for the time period (e.g., middle school), theme (e.g., achievement), context (e.g., academic, sports), and the presence of goal-directed content (e.g., presence of need, assistance and hindrance, emotions, goals). Current student motivation and engagement in learning was assessed using a generalized version of the Motivated Strategies for Learning Questionnaire. Among the general trends were: a) students recalled more affiliative/non-curricular than academic/achievement episodes, b) the least positive (most negative) content emerged when students described affiliative/non-curricular memories, c) there were less than half as many middle school than either elementary or high school memories, and d) students who were more anxious, less confident, and who used lower level rehearsal strategies in college tended to recall more non-curricular and non-achievement episodes. Discussion included reasons for the low recall of episodes during middle school and the possible moderating effect of memories on current motivational tendencies and student engagement in learning. Additional studies were suggested that employ both positivistic and qualitative approaches, as well as experimental designs to determine the influence of changes in contemporary mood states on students' long-term memory of important school-related experiences. The coding scheme developed in the present study would assist in such endeavors.

Autobiographical Narratives of Important School Events and College Students' Current Academic Engagement

Characterization of learners in terms of degree of engagement, self-regulation (e.g., Schunk & Zimmerman, 1994), and achievement goals (e.g., Ames, 1992) has considerably increased our understanding of the determinants of students' academic achievement. In addition to the predominant use of survey and experimental methodology, upon which much of this literature is based, qualitative techniques have provided complementary information about how students' (and teachers') perceptions and construals of learning environments affect achievement processes and outcomes (Connelly & Clandinin, 1990; Dillard, 1996; Eisner, 1991). Typically, the temporal interval examined has been a single class session, a school semester, or at most one year (e.g., McCallister, 1996; Ornstein, 1995). Such research, however, has yet to incorporate the expanding field of longer-term autobiographical accounts that may encompass several decades (Thompson, et al., 1996, 1998).

Long term studies of salient educational experiences can inform theory and practice by systematically documenting both the typicality and the diversity of students' school-related lives. In addition to the inherent value of such descriptions is the recognition that personal event memories—their "real-world usefulness" (Bruce, 1989)—especially those that are momentous, vivid, and persistent, have the potential to influence contemporary life (McAdams, 1993; Pillemer, 1998, Rubin, 1996). According to this view, current cognitions, affect, and behavior may be moderated by the memories of prior events that students entertain privately or recount to others. A prototypical example would be how the recollection or recounting of special encouragement or reprimand from a teacher during elementary school could affect education-related self-concepts, attitudes, goals, or choices years later.

A particularly critical time in students' lives is the early phase of their post-secondary education because from that vantage point they are well positioned to review the full scope of their K-12 experiences. We focused on this period by asking undergraduate college students to recall what they considered "important" school-related memories up to that time. Because of the educational frame, it was generally expected that students would recall both academic and social events and that peers and adults (e.g., parents, teachers) would feature prominently. Of interest were predominant themes, contexts, affective tone, and the time periods (especially middle school; Wigfield, Eccles, & Rodriguez, 1998) that students reported, as well as the prominence of

teachers, either as facilitating or inhibiting students' academic progress, and the frequency with which students recalled having pursued learning goals with high levels of interest or experiences that suggested intrinsically motivated academic behavior. The potential of school-related memories to influence students' contemporary lives was assessed by determining whether students' school-related narratives were associated with their current motivational tendencies and self-regulatory behavior. Among the expected relationships were that the narratives of students who manifested more, as compared to less, approach motivational tendencies and engagement in learning would recall more academic and school-related episodes and would have fewer memories that involved non-school activities such as social behavior. We also expected that more motivated and engaged students would recall having more positive experiences in general.

Method

Sample and Procedure

Ninety-four introductory psychology students volunteered for extra credit to participate in a study described as interested in "learning about the kinds of experiences students have had with school." Participants provided this information verbally (tape-recorded) in private sessions using a relatively unstructured format. The procedure began with assurances of confidentiality followed by instructions to "think back over your own school experiences. Maybe you will recall memories of school when you were quite young. Maybe you will think of recent memories. Maybe you will remember experiences of school somewhere in-between. Just try to think of school-related experiences that were important to you. Let's take a few minutes for you to recall these experiences." After further procedural instructions, students were again told to "Remember, we want you to describe some school-related experiences that were especially important to you. By school-related, we mean experiences that happened in school as well as outside experiences that affected what happened in school. Tell your stories in your own words. Don't worry about anything except describing your experiences in as detailed a way as you can." Note that students were specifically not oriented toward any time period (e.g., elementary, high school) nor instructed to recall events in any order (e.g., chronologically).

After completing their narratives, students were asked to recall events for each school time period as well as additional questions (data not presented here), then completed a generalized version (i.e., across classes) of the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1993) that assessed student motivation (intrinsic and extrinsic goal orientation, value, and expectancy, control beliefs), test anxiety, use of cognitive learning

strategies (rehearsal, organization, elaboration, critical thinking), metacognition, and resource management strategies (time/study, effort, peers, and help seeking). All MSLQ scales had acceptable internal consistency as estimated by Cronbach alpha.

Autobiographical Narrative Analysis

A three-stage coding system was developed to capture the full range of school-related narrative elements. The first stage consisted of dividing the content into discrete "memory units" (MUs)—self-characterizations or characterizations of what school was like during a particular period of time, events or episodes having a unified theme or miniplot, or hybrids of characterizations and events. Second, MUs were coded for the time period designated (e.g., elementary, middle school), theme, and context. The remaining coding emerged from an examination of the narratives. Not unexpectedly, because of the school-related focus, the thematic content was readily coded by adapting some of the scoring conventions from the original McClelland-Atkinson framework (Atkinson, 1958).

All MUs were coded for achievement and affiliation themes, or description (note that power themes did not emerge from the narratives). Achievement themes consisted of concerns for, or investment or engagement in, goals (academic or non-academic) involving success or failure. Affiliation was coded when MUs described establishing, maintaining or restoring a relationship with another person or persons, often expressed as a memory of social interaction. Units were designated "descriptive" if they were devoid of achievement or affiliative themes. Context codes that emerged from the narratives consisted of academics, sports, arts/music and non-curricular. Academic context consisted of in-school or out-of-school activities associated with core K-12 skills. The non-curricular category primarily consisted of social content both within and outside of school. In addition to these mandatory codes, memory units were scored optionally for the presence of goal-related instrumental activity, goal aspiration or avoidance, value, affect/emotion, assistance from or hindrance by other individuals (e.g., moving), self-reference (i.e., statements about one's qualities, traits or abilities), help seeking, and future consequences. Four coders (the last four authors listed) analyzed the narratives independently, then compared results and achieved consensus in the event of disagreements. In addition to coding the narratives, coders described them in terms of vignettes that, in their view, captured the essence of those narratives. For example, some students were characterized as totally dedicated to academic success, whereas others focused exclusively on the social aspects of school. (A copy of the coding manual can be obtained from the authors at the address provided.)

Results

Narrative Content

Theme and Context — Students generated a positively skewed distribution with a mean of 8.4 MUs (*SD* = 6.7, *Mdn* = 6, *Range* = 1-33). As shown in Table 1, approximately one-fourth of the MUs that students provided were related to achievement themes, with the remainder divided between affiliative themes and descriptions devoid of goal direction. Context was almost evenly divided into curricular (54%) and non-curricular (46%) events and characterizations, with most of the curricular content reported to have taken place within an academic context (38%) and the rest divided between sports (8%) and arts/music (8%). There was considerable thematic and contextual moderation, however (X^2 (6) = 210.11, $p < .0001$). Most of the achievement themes occurred within an academic context (18%), but were also recalled as having taken place in sports, arts/music, and other contexts (8%). MUs with affiliative themes emerged primarily when students were engaged in non-curricular activities (26%), which represented the most frequently occurring combination of theme and context, versus 10% affiliation when students were engaged in curricular pursuits. Descriptive (i.e., non-goal-directed) content occurred approximately an equal number of times in curricular (20%) and non-curricular (18%) contexts.

Temporal Variation — As shown in Table 2, most of college students' recollections were concentrated during elementary (37%) and high school (35%), rather than in middle school (14%) or college (9%), with a small proportion of MUs not temporally designated. The relative paucity of autobiographical material during middle school is statistically significant compared to elementary and high school (Goodness of Fit X^2 (2) = 84.73, $p < .0001$), and is consistent across categories of thematic and contextual content. Another pattern is a relative increase in goal-directed (both achievement and affiliative) compared to a decrease in descriptive content from elementary to high school (X^2 (1) = 16.41, $p < .0001$). Changes in context as a function of time tended to occur between areas of the school curriculum. Specifically, academic memories decreased by 4% whereas sports and arts/music increased by 6% (X^2 (1) = 17.21, $p < .0001$). We also observed that students' narratives were typically chronological, which was confirmed by the correlation between the temporal period identified in the memory unit (excluding MUs in which time was not designated) and the MU's serial position (r(711) = .49, $p < .0001$). In addition, the serial position trend as a function of temporal period was approximately linear (*Means* of 4.0, 7.0, 9.5, and 13.7 for elementary, middle, high school and college, respectively).

Category Analysis — Table 4 presents the incidence (mean percentage) of MUs for the categories that emerged from the content analysis. Generally, with the exception of affect/emotion, students recalled more positive than negative content. For example, they indicated a need to approach and to accomplish goals twice as often (7%) as to avoid them (3%), and they reported people and situations as having positive value or importance over three times as often as those having negative value. Students also recalled many more instrumental activities that were successful (16%) as opposed to unsuccessful (4%) or uncertain (5%). As expected, students reported the influence of teachers—both as having been facilitative (5%) and as hindrances (3%). Peer influences, however, were overwhelmingly detrimental (7%). There were also numerous reports of helping and hindering events (e.g., moving to another town that disrupted a relationship). Affect and emotional content occurred frequently in student narratives, with more negative (21%) than positive (15%) instances. Students were often self-referential (slightly more positively than negatively) in reporting about their personality characteristics and degrees of self-efficacy. There were few instances of help seeking. Finally, students prognosticated future consequences, which in most instances were positive (6%) rather than negative or uncertain.

We also examined the degree to which students reported positive, successful, or beneficial versus negative, unsuccessful, or detrimental experiences as a function of theme and context by subtracting the incidence of "negative" (e.g., unsuccessful instrumental activity, negative affect/emotion) from the incidence of "positive" categories. Table 5 presents the resultant mean index values and ANOVA results (p-values) which indicate significant main and interaction effects. Clearly, the most positive experiences reported by students are when they engaged in achievement-related sports, arts/music, and non-curricular activities, especially when compared to academic contexts. The qualitative value of memories of affiliative activity in academic contexts (M = .85) was similar to that for achievement (M = .93) but considerably different in the non-curricular domain, that exhibited the only negative resultant index value (M = -.13). In other words, on average, there were more recollections of negative than of positive non-curricular affiliative experiences. Consistent with this interpretation, there was a significant positive correlation between the proportion of affiliative memories and the degree to which students' narrative content exhibited negative characteristics ($r(92) = .34$, $p < .01$).

Student Vignettes

Student narratives varied in length, level of detail, and degree of intensity. Consistent with the categorical codes already presented, impressionistic descriptions of student narratives could be

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grouped by their focus either on academic achievement or affiliative/social content. In a typical academic/achievement example, a student started a newspaper in the third grade, wrote a perfect history exam, didn't study his senior year, but began to work again in college. One of the more vivid academic activity narratives involved a student who finally matched the success of her older siblings by becoming a member of the academic challenge team. An individual with a strong sense of the importance of academics remembered having support and guidance from parents, particularly his mother who was a teacher. He participated in several sports as well as taking college classes while a junior and senior in high school. He was self-motivated at an early age, demonstrating this by sustaining a playground injury and refusing to go home because it was his day to get the milk. He got along well with his peers and had no memories with negative content. Now he was in college ROTC and had learned to balance his time between many demands, with obvious confidence in his own abilities.

An interpersonal affiliation/social example is that of a woman who dwelled on the experiences she had with her twin sister, such as switching test papers, the twins not revealing their true identities, and having been placed in separate classes. Among the "overcoming personal obstacles" stories is the girl diagnosed as dyslexic in elementary school who began attending special education classes, later suffered from being labeled (a retard) after being mainstreamed, but who achieved special recognition in high school for an essay after which peers labeled her as "smart." Among the stories that moved in the other direction, was the male who cheated and stole, was disliked by his teachers who revealed his indiscretion to the entire class, and although he had high MEAP scores and other accomplishments was chosen neither for a gifted and talented program nor later for the National Honor Society. In another narrative, a student describes himself as one of the smartest kids in school until eighth grade who started getting into fights, received poor grades in high school, and was admitted to college only after completing a provisional program. We also took note of narrative content that was absent. For example, there were few references to "special" teachers who had major positive influences, and as many who frustrated students. Also rare were instances of peak learning or "flow" experiences that described school as a special place in which to learn.

Current Student Motivation and Engagement in Learning

Relationships between autobiographical narrative content and current motivation and engagement were analyzed using the proportionalized indexes that summarized the incidence of content across MUs for each student. Motivational components were divided into value (intrinsic, extrinsic, and

value scales), expectancy, and anxiety. Cognitive engagement was divided into the use of a lower-order strategy (rehearsal), higher-order cognitive strategies and metacognition (organization, critical thinking, metacognition), and resource management strategies (time/study, effort, help seeking). Correlations were computed between students' contemporary status on these dimensions, the incidence of thematic and contextual content, and the resultant index of positive/facilitative and negative/detrimental content categories described previously.

Most of the evidence of relationships involved the context of students' memories and either test anxiety, expectancy, or the use of rehearsal. Students with higher levels of test anxiety were less likely to remember events that occurred in academic contexts ($r(29) = -.27$, $p < .05$) and more likely to remember events that took place in non-curricular contexts ($r(92) = .33$, $p < .01$). More anxious students' memories were also likely to contain more negative/detrimental than positive/facilitative content ($r(92) = .23$, $p < .05$). Students with higher levels of expectancy were also less likely to remember non-curricular content ($r(92) = -.22$, $p < .05$). The use of rehearsal as a strategy was inversely related to the incidence of academic content ($r(92) = -.29$, $p < .05$) and directly to the incidence of non-curricular content ($r(92) = .38$, $p < .01$). Finally, the use of regulation strategies (particularly that of effort regulation) was associated with the proportion of MUs that occurred in the context of sports ($r(92) = .22$, $p < .05$).

Discussion

Our examination of college students' memories reveals several general trends. First, we estimate that about half of the important episodes and characterizations occurred in curricular contexts, somewhat fewer in traditional academic domains, and one-fourth that described students striving toward achievement goals. Further, by combining themes and contexts we can conclude that less than one-fifth of students' memories involved what could be labeled as academic achievement. That the remaining content involved primarily social and affiliative concerns underscores contemporary efforts (e.g., Anderman, & Maehr, 1994; Juvonen & Wentzel, 1996; Ryan, 1998; Ryan, Hicks, & Midgley, 1997) to elucidate the interplay between social and achievement goals. The prevalence of high levels of social/affiliative content was not unexpected, but what this study affords is a more precise estimate than previously available of the extent of academic/curricular versus social/affiliative and other memories for this population. We also observed a tendency for affiliative/social memories to be more negative than those with achievement/academic content.

Quite unexpected was relatively low incidence of recall of characterizations and events during middle school compared to elementary or high school. If anything, we expected that the often dramatic changes that occur would have rendered that period of time more rather than less salient and vivid, and therefore remembered more completely (Thompson, et al., 1996), compared to both elementary and high school. One explanation for this result is that students typically spend less time in middle school (three years) rather than the six years in elementary or the four years in high school. The time difference alone, however, would not seem to account for the more than 40% decrease in middle school content. Motivated forgetting could also explain the middle school effect if we assume that the incidence of traumatic (or at least negative) events is greater during middle school than during elementary or high school. Because the memories that would have been suppressed in this way are not present we cannot determine their emotional value nor their intensity, which recent evidence suggests may be a more important determinant of memory than emotional pleasantness (Thompson, et al., 1996).

We also note that the incidence of affiliative/non-curricular content was high in the present study despite its relatively high negative content. There is precedence for the relatively low incidence of recall during adolescence using older adults (Robinson & Taylor, 1998), although the time periods in the present and previous studies do not overlap completely, as shown in Figure 1. Interestingly, rather than attempt to account for the low incidence during adolescence, others have focused on what they term a "reminiscence bump" prior to that time. According to that approach, were it not for the "bump" we would have observed a classic long-term retention curve with monotonically diminishing memories over time. The greater incidence during early childhood, which would encompass elementary school in the present study, would then be explained as a primacy effect due to first-time, intense experiences taking place at that time. Whatever the explanation, the middle school effect in the present study invites further exploration, including the possibility that middle school events were sufficiently negative to warrant their suppression.

Although there were few (and not very strong) correlations between the recall of important school-related events and contemporary motivation and engagement in college learning, those in evidence were consistent in involving a cluster of expectancy, test anxiety, and rehearsal on the one hand and the recall of academic/curricular versus non-academic/non-curricular content on the other. In general, students with lower expectancies of success, higher levels of anxiety, and those who use lower level strategies are also those who tend to recall more non-academic, non-

curricular (more social) memories.[1] On average, more test anxious students' memories also reveal more negative content. The evidence suggests, therefore, that less confident, more anxious students will remember having had more negative and non-academic and curricular important experiences during school than will more confident, less anxious college students. Students may be reporting events in veridical fashion, or may be reconstructing events in a manner that renders them consistent with their current motivational tendencies and level of engagement in learning. Either alternative creates the potential for recall to influence students' contemporary life, with the latter, however, increasing the probability of exacerbating students' current state. For more anxious students, for example, state-dependent memory processes should bias recall in favor of events that are consistent with their negative emotional state: anxious students recalling more instances of negative experiences.

Further study is needed to determine what, if any, causality to attribute to long-term memories in educational contexts, including designs that as in the present instance combine positivistic and more qualitative methodologies (e.g., Bogdan & Biklin, 1992). Suggestions include testing older populations using a school-related rather than open frame, and determining whether the manipulation of students' mood would affect what students consider important school-related events. The development of a complete coding scheme in the present study would be useful for others venturing into the domain of student autobiographical narratives.

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[1] Relationships involving rehearsal but not higher-order strategies is consistent with evidence that students rely primarily on repetition strategies during high school and early college years (Wood, Motz, & Willoughby, 1998). At least for these students who were enrolled primarily in introductory courses, there may have been insufficient reliable variation in the use of other strategies. In fact, the variance of reported use of rehearsal in the present study was slightly higher than for other strategies.

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Table 1
Distribution of Memory Units (%) as a Function of Theme and Context

	Theme			
Context	Achievement	Affiliation	Description	Total
Academic	18	6	14	38
Sports	3	3	2	8
Arts/Music	3	1	4	8
Non-curricular	2	26	18	46
Total	26	36	38	100

Table 2
Distribution of Memory Units (%) as a Function of Time and Theme

	Theme			
Time	Achievement	Affiliation	Description	Total
Elementary	7	12	18	37
Middle	4	5	5	14
High	10	14	11	35
College	3	3	3	9
Undesignated	1	1	2	5
Total	26	36	38	100

Table 3
Distribution of Memory Units (%) as a Function of Time and Context

	Context			
Time	Academic	Sports	Arts/Music	Other
Elementary	15	1	2	18
Middle	6	1	1	6
High	11	5	4	16
College	4	< 1	< 1	4
Undesignated	2	< 1	< 1	2
Total	38	8	8	46

Table 4
Mean % of Memory Units with Designated Content

Need		
Approach	7	
Avoidant	3	
Goal		
Approach	7	
Avoidant	3	
Value		
Positive	22	
Negative	6	
Instrumental Activity		
Approach: Successful outcome	16	
Approach: Unsuccessful outcome	4	
Approach: Uncertain outcome	5	
Avoidant	3	
Influence	Help/Assistance	Hindrance
Mother	1	<1
Father	< 1	< 1
Parents	1	1
Siblings	1	< 1
Teachers	5	3
Coaches	< 1	< 1
Other adults	1	1
Peers	1	7
Boyfriend or girlfriend	< 1	1
Impersonal influence	7	9
Affect/Emotion		
Positive	15	
Negative	21	
Personality Characteristics		
Positive	7	
Negative	5	
Self-efficacy		
Positive	6	
Negative	5	
Help seeking		
Successful	2	
Unsuccessful	< 1	
Anticipated Future Consequences		
Positive	6	
Negative	1	
Uncertain	1	

Table 5
Net Resultant Positive - Negative Category Content Incidence Means as a Function of Theme and Context[a]

	Theme			
Context	Achievement	Affiliation	Description	Total
Academic	.85	.93	.27	.64
Sports	1.65	.88	.22	.94
Arts/Music	1.80	1.50	.36	1.09
Non-curricular	1.23	-.13	.05	- .01
Total	1.08	.17	.18	.40

[a]ANOVA: Theme $p < 0001$, Context $p < .05$, Theme X Context $p < .01$. Data for this analysis were obtained by subtracting the incidence of negative from the incidence of positive categories for each memory unit. Note that because cell frequencies differ, marginal means are not the averages of the respective row or column cell means.

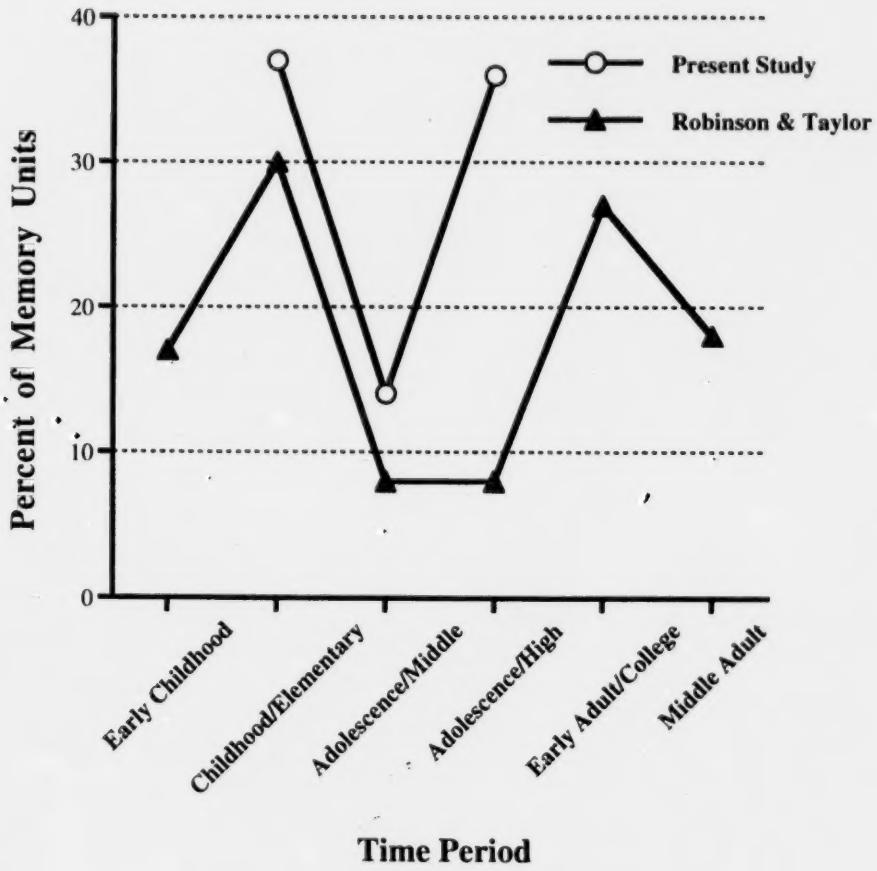

Figure 1. Memories as a Function of Time Period